



US005231381A

United States Patent [19]**Duwaer**[11] **Patent Number:** **5,231,381**[45] **Date of Patent:** **Jul. 27, 1993**

[54] **DATA PROCESSING SYSTEM WITH A TOUCH SCREEN AND A DIGITIZING TABLET, BOTH INTEGRATED IN AN INPUT DEVICE**

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[21] **Appl. No.:** **590,985**

[22] **Filed:** **Oct. 1, 1990**

[30] **Foreign Application Priority Data**

Oct. 2, 1989 [EP] European Pat. Off. 89202473.8

[51] **Int. Cl.⁵** **G09G 3/02**

[52] **U.S. Cl.** **340/712; 340/706; 178/18; 178/19**

[58] **Field of Search** 178/18, 19; 340/712, 340/708, 706; 367/907, 129; 341/34

[56] **References Cited**

U.S. PATENT DOCUMENTS

4,564,079	1/1986	Moore et al.	178/18
4,645,870	2/1987	Adler	178/19
4,686,332	8/1987	Greanias et al.	178/19
4,786,896	11/1988	Harte	340/712
4,853,496	8/1989	Taniishi	340/706
4,916,308	4/1990	Meadows	340/712

4,933,544	6/1990	Tamaru	340/712
4,977,397	12/1990	Kuo et al.	178/18
5,038,142	8/1991	Flowers et al.	341/34
4,775,765	10/1988	Kimura et al.	178/18

FOREIGN PATENT DOCUMENTS

0256327	2/1988	European Pat. Off.	
0297557	1/1989	European Pat. Off.	
0039232	3/1985	Japan	340/712

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[57] **ABSTRACT**

A data processing system includes a multipurpose data input device formed by a touch screen and a digitizing tablet integrated with one another which are activatable independently of each other by proper stimuli. The input device is integrated with a flat panel display in order to establish a visual feedback to the user or to present information pertaining to the entered data after processing. The flat panel display, touch screen and digitizing tablet take a variety of forms and a variety of techniques are utilized to determine which of the touch screen and digitizing tablet is activated at any time.

23 Claims, 5 Drawing Sheets

